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Ontario. Environmental Assessment Board.
OW-87-03
IN THE MATTER OF AN APPLICATION BY THE REGIONAL MUNICIPALITY OF YORK FOR SEWAGE TREATMENT WORKS LOCATED IN THE HAMLET OF SCHOMBERG, TOWNSHIP OF KING. 1987.

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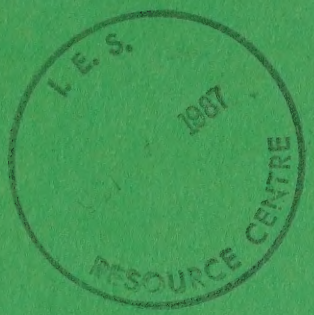

ENVIRONMENTAL ASSESSMENT BOARD

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OW-87-03

IN THE MATTER OF an application by the Regional Municipality of York for sewage treatment works located in the Hamlet of Schomberg, Township of King.

Before: G. Patterson, Chairman
S. Tanner, Member

Report of the Board dated October 1, 1987

Environmental Assessment Board
1 St. Clair Ave. W. 5th Floor
Toronto, Ontario M4V 1K7

I.E.S.
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RESOURCE CENTRE

OW-87-03

IN THE MATTER OF an application by the Regional Municipality of York for sewage treatment works located in the Hamlet of Schomberg, Township of King.

Before: G. Patterson, Chairman
S. Tanner, Member

Report of the Board dated October 1, 1987

OW-87-03

IN THE MATTER OF Section 26 (1) of the Ontario Water Resources Act, (R.S.O. 1980, c.361) as amended;

- and -

IN THE MATTER OF an application by the Regional Municipality of York for sewage treatment works located in the Hamlet of Schomberg, Township of King.

APPEARANCES:

Mr. Edward Oakes	- Regional Municipality of York
Mr. Q. Annibale	- Township of King
Mr. Garry Boretski	- for the Ministry of the Environment
Mr. Stanley Wiggins	- on his own behalf
Mr. Ken Kitchen	- on his own behalf
Mr. Wayne Kitchen	- on his own behalf
Mr. Jim Kitchen	- on his own behalf
Mr. Hessie Rimon	- for Daraban Holdings
Mr. Reinie Vos	- for Lake Simcoe Region Conservation Authority

REPORT

A public hearing was held in the Schomberg Arena Hall on Western Avenue in Schomberg on August 17 and 18, 1987 in order to hear evidence and submissions on proposed sewage works comprising a sewage pumping station and forcemain, a three-celled lagoon system, sand filters, an effluent pumping station and forcemain to the Schomberg River. The lagoon site

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is to be located on part of Lot 34, Concession 8, in the Township of King.

Background

The hamlet of Schomberg is a community of 950 to 1,000 people within the Township of King, Regional Municipality of York, with no communal sewage treatment system. The residents have septic tile field systems, often on lots too small for proper operation of these systems.

The Ministry of the Environment witness, Mr. Garry Boretski, presented a brief which described water quality monitoring conducted by the Ministry (and previously by the Ontario Water Resources Commission) in 1970, 1971, 1985 and 1986. The results of all of these tests showed high fecal coliform counts.

The consulting firm of Underwood McLellan Associates reviewed the existing sewage disposal systems and prepared a report in 1978 which concluded that unsatisfactory sewage disposal conditions existed. A further final report was submitted in July of 1980, confirming that individual systems were inadequate and recommending a communal septic tank and tile bed system. At each of these times it was determined by council that a communal sewage treatment system was cost prohibitive without provincial funding.

Dr. John Slingerland, the Medical Officer of Health for the Regional Municipality of York, gave evidence that there is a potential public health problem from malfunctioning septic tanks. The short-term solution, he noted, consists of holding tanks which are periodically pumped into large tanker trucks, but these then must be either emptied onto fields or taken to a sewage treatment plant. Thus a sewage treatment plant is the only practical solution to treatment problems in Schomberg.

The provincial grant system for sewage works did not provide grants of more than 15% for communal systems in regional municipalities until 1984. The Ministry's program changed in 1984 to allow the province to pay 60% of costs of a treatment system providing that the Region provided 25%. The Region has since adopted a uniform sewer rate for all users of municipal sewers, approved a 25% grant for the Schomberg sewage works, and passed a by-law to authorize construction of the Schomberg sewage treatment works.

Although the proposed system is for the benefit of the hamlet of Schomberg, the Regional Municipality, under the authority of s.47 of the Regional Municipality of York Act, has all of the powers necessary to carry out a sewage works system. Also, ss.51 (2) of that statute states that after the 31st day of December, 1970, no area municipality shall establish any treatment works without the approval of the Regional Council. In short, the Regional Municipality is responsible for the sewage treatment plant, while the local municipality, the

Township of King, is responsible for the sewers which carry wastes from individual residences or businesses.

The Physical Setting

The proposed facility, shown on Exhibit 14 and Appendix "A" to this report, is in the watershed of the Holland River, with its headwaters to the west and south of the hamlet of Schomberg. The watershed comprises approximately 450 to 500 hectares and drains through the proposed site in a northeasterly direction.

The Schomberg River (also called the west branch of the Holland River) originally ran through the middle of the Holland Marsh drainage area but, in the late twenties and early thirties, the river was apparently diverted to the south and north and the area now called the Holland Marsh was dyked off. The river no longer flows through the middle but the river water is pumped into canals, running on both the north and south sides, which surround and meet at the northeast end of the Holland Marsh area, again flowing into the Schomberg River.

Schomberg is south and west of the above-described canal system. The Schomberg River is a year-round flowing stream which meanders through Schomberg and proceeds roughly parallel and slightly north of Highway 9, crossing Highway 27 before it enters the drainage canal to the east of Highway 27.

Water flow at the proposed discharge location, shortly before the river meets the two drainage canals surrounding the Holland Marsh, was calculated as the minimum flow that occurs over any 7-day period once every 20 years. This was shown for each month and ranged from 19.1 litres/second in July to 183 litres/second in April.

Mr. Rupke, the applicant's consulting engineer, analyzed the amount of wastewater which is likely to be generated by the hamlet of Schomberg, wastewater characteristics and stream quality. Stream quality was analyzed on the basis of temperature, dissolved oxygen, pH, ammonia, phosphorus and BOD.

Drainage

The Lake Simcoe Region Conservation Authority witness, Mr. Vos, pointed out that the area is subject to the Authority's regulations and that the lagoon site is traversed by an existing watercourse in a north/south direction. The Authority will require the applicant to prepare flood plain mapping so that the impact of diverting the watercourse and constructing lagoons in the flood plain can be fully evaluated.

Further requirements of the Conservation Authority are that the proposed lagoons and associated structures must be

floodproofed to withstand a regional storm equivalent to Hurricane Hazel and adequate measures must be taken to minimize erosion and sedimentation along the watercourse.

The Conservation Authority would also generally require that there be no impact either upstream or downstream from any development proposal on the regional storm flood plain.

The Board did not, of course, have access to flood plain mapping since that has not yet been prepared. Any approval given by this Board, however, could not be implemented without approval from the Conservation Authority. Nevertheless, the Board is of the opinion that floodplain mapping should be completed at an early date.

Effluent Quality

Water Management Goals, Policies, Objectives and Implementation Procedures of the Ministry of the Environment, Revised May, 1984 (the Blue Book) describes two policies respecting effluent quality. Policy #1 requires that if the stream water quality is better than the objectives established in the Blue Book, that quality must be maintained at or above the objectives. Policy #2 requires that where existing water quality objectives are not being met, water quality cannot be made worse than it is. The Schomberg River falls into both categories, depending upon which parameter is being considered.

With respect to BOD (biochemical oxygen demand) levels which indicate how rapidly the water will consume oxygen, measurements varied from a low of about 1 part per million to a high of 12 to 14 parts per million. Mr. Rupke's analysis showed that in January, February, March and December, provincial water quality objectives were frequently not met. His explanation for the current situation is that water levels in the canals are primarily controlled by the level of Lake Simcoe and may move back and forth rather than flowing continuously in one direction, so that oxygen levels are depleted. This results in a Policy 2 situation, where further degradation must be prevented by the use of the best available technology.

Acidity in the stream is measured as pH - the higher the pH, the less the acidity and the greater the impact of ammonia on fish. Mr. Rupke looked at the worst case pH and found that the highest pH's were in the range of 8.0. Nevertheless, ammonia levels, which result from agricultural waste, human waste and chemical fertilizers, are significantly better than the provincial objectives.

Phosphorus must be controlled because it fosters algal growth which, when it decays, consumes oxygen and depletes the oxygen source in the lake. Phosphorus levels in the receiving stream occasionally exceeded provincial objectives so that the best available technology must be used to ensure that the situation

is not further degraded. For the entire Lake Simcoe watershed, existing phosphorus levels are such that input is not to exceed .3 mg/L.

Effluent requirements for this proposal were determined partially according to Lake Simcoe water basin requirements. Mr. Boretski's evidence included a table showing effluent quality requirements and objectives, some of which vary for different periods of the year. The table is reproduced below.

Effluent Quality Requirements and Objectives

The Central Region recommends the following:

Parameter	Requirements	
	Concentration	Loading
Total phosphorus	0.3 mg/L or less	75 kg/yr or less
Suspended solids	15 mg/L or less	
Five-day biochemical oxygen demand (BOD_5)	(1) 20 mg/L or less (2) 10 mg/L or less (3) 6 mg/L or less	
Ammonia plus ammonium nitrogen	(1) 8.0 mg/L or less (2-a) 2.5 mg/L or less (2-b) 3.5 mg/L or less (3) 1.0 mg/L or less	

Parameter	Objectives	
	Concentration	Loading
Total phosphorus	Less than 0.3 mg/L	Less than 75 kg/yr
Suspended solids	Less than 10 mg/L	
BOD_5	5.0 mg/L or less	

(1) - April; (2) - May and November; (2-a) - May; (2-b) - November; (3) - June and October

Mr. Rupke determined that because of the low assimilative capacity of the stream, there should be no discharges from the lagoons in July, August or September, nor in December, January, February or March. The Ministry, because of its recreational water quality objectives, submitted that in addition there should be no discharges in June, half of May and half of October. Mr. Rupke was of the opinion that the period of discharge could be reduced in accordance with the Ministry's suggestion because effluent quality will be better than required so discharge rates can be increased.

Treatment System Design

Two types of treatment systems were considered: lagoon and mechanical. A lagoon system allows organics to be consumed by bacteria and converted to biological solids which settle out to the bottom of the lagoon. A mechanical system accelerates the natural process by providing oxygen through mechanical aerators or diffused air systems that bubble air through the wastewater and the bacteria mixture. Treated wastewater from the mechanical system is then discharged and the bacteria are retained to consume more organics.

Mr. Rupke found that, with the goal of providing a stable and consistent effluent quality, a lagoon system was preferable because of the long retention times. The lagoon system alone, however, would not meet the effluent quality requirements established for the stream and his choice for a supplementary

system was sandfilters. These sandfilters would further strain out suspended solids and chemically precipitated phosphorus, and provide a media on which to grow bacteria that would oxidize ammonia into nitrate. Thus, the sandfilters would improve effluent quality in terms of ammonia, phosphorus, BOD, and residual suspended solids and the resulting effluent quality would meet the Ministry's requirements.

Because of the Ministry's requirement for shorter discharge periods, larger filters and additional storage capacity are needed. Mr. Rupke recommended a maximum working depth of 6 feet in order to minimize odours, so the size of the lagoons, rather than the depth, must be increased. Increasing storage capacity to 200 days will thus require 3 lagoon cells instead of 2.

Three cells would infringe somewhat on the buffer areas, especially on the west side, but at least 100 metres of buffer would be retained on each side. Also, a fourth cell or three larger sand filtration cells would be required to the north of the lagoons. These design changes are not reflected on the exhibits because they were made just prior to the hearing.

Operation

The treatment system is composed of sewer lines, pumping station, forcemain, lagoons and sand filters. The sewers drain by gravity to the lowest point which will be a wet well

in the main pumping station on Main Street. Raw sewage will be pumped from the wet well through the forcemain to the lagoon site. A distribution chamber will distribute it to the three cells, from which it will be pumped to the sand filters. An effluent forcemain will then carry the treated effluent to its discharge point upstream of the point where the 2 canals surrounding the Holland Marsh meet.

Site Selection

Four sites were considered for the lagoon system. Criteria included proximity to residences, soil conditions, prevailing wind direction, and drainage. The site proposed was found to be suitable for the construction of lagoons without any additional lining, has suitable separation distances from residences, is large enough to provide a minimum 100 metre buffer on site, and, although drainage must be engineered, it is less of a problem than the further downstream sites described as A, C, and D. The three other sites were dismissed because: Site A was limited in size and would not be suitable for a lagoon system or for summer effluent storage; Site C had unsuitable topography; and Site D would have had high construction costs because of a high groundwater table.

The evidence was that the clay soils on the selected site should provide effective containment of the sewage since groundwater movement was estimated to be less than one metre per year. However, the Ministry recommended, and the applicant agreed, that monitoring wells should be installed at

the periphery of the property or between the lagoon site and the periphery of the property. These would be monitored routinely prior to and after construction and operation. It was also suggested by the Ministry that adjacent private wells should be sampled prior to construction and operation of the lagoons, in order to establish background water quality. The Board agrees that these monitoring measures should be undertaken.

The proposed lagoon location is to the east of Highway 27, south of Highway 9. The hamlet of Schomberg is concentrated in a north-south pattern parallel and to the west of Highway 27. Appendix "A" to this report shows existing land uses in relation to the proposed lagoon site, pumping station and forcemain.

Mr. Snider, the planner for the Township of King, stated that the proposed facilities conform with the Official Plan and Zoning By-law.

One of the possible alternatives to the construction of a communal sewage system is connection to the York-Durham trunk sewer which empties into the Duffin Creek Pollution Control plant on Lake Ontario in Pickering. That trunk sewer now extends to Newmarket and Aurora, but it was not planned to serve smaller communities. Mr. Snider explained the Regional policy which requires that areas which are already large or for which substantial growth is planned are to be served by

the regional sewer system, but smaller areas which are not intended to grow substantially are to have small communal systems, which will assist in limiting growth.

Apparently the Official Plan now provides for residential development in an area larger than will be required for 150 homes (equivalent to a 500 population increase). This is partly due to the fact that smaller lots will be allowed if a communal sewage treatment system is in place. A study dealing with potential downzoning of this residential area is being conducted by Mr. Snider, but meanwhile the Township supports a 1,500 person sewage treatment capacity, in accordance with the role of Schomberg in the Regional and Township official plans.

Impacts

The Board heard substantial submissions from two families - the Wiggins and the Kitchens. Mr. Wiggins' residence is on the east side of Highway 27, approximately 300 metres from the west property boundary of the lagoon site. He and his family have lived there since 1968 and for the past 19 years have had access to the proposed lagoon site property for walking and wildlife viewing. Mr. Wiggins objected to what he termed the "presumptuousness" of the applicant in acquiring this property before seeking approval for the sewage treatment system.

Mr. Wiggins' house is on an elevation, so it will overlook the sewage lagoons at a distance of perhaps 400 metres. There

will be some natural screening from Highway 9 and Mr. Kitchen's farm to the east, but no visual separation from Mr. Wiggins' property. The Board has therefore concluded that Mr. Wiggins and his family will be most affected by the location of the lagoons.

Mr. Wiggins suggested that if the application is approved, landscaping should be provided to obscure his view of the lagoons. This might be done by using the earth excavated from the lagoons to build a berm at the west side of the proposed site and planting trees on it.

Counsel for York Region, in argument, referred to the case of St. Pierre v. Ministry of Transportation and Communications, S.C.C., June 4, 1987, as standing for the proposition that under the law of Ontario there is no right to compensation for loss of prospect or view. In that case the plaintiffs, who lived in a rural setting, claimed for compensation for injurious affection when a highway was built next to their property, but their property was not expropriated or acquired. Compensation was denied on the basis that nuisance, the common law cause of action upon which injurious affection would be founded, does not extend to loss of prospect or view.

The Board finds that the St. Pierre case is not applicable to this application since Mr. Wiggins is not claiming compensation under the Expropriations Act or on the common law basis of nuisance. He is seeking mitigation of the visual

impact of this sewage treatment plant. It is within the power of the Director, under ss. 24(4) of the Ontario Water Resources Act, to impose terms and conditions redressing such impacts where he considers that such terms or conditions are in the public interest. In fact, the Region's counsel, after arguing the St. Pierre case, stated that there may be something which could be done in the way of landscaping or screening, and that if a problem developed something should be done.

Mr. Wiggins' position, despite his comments on mitigation, is that approval should not be given for a lagoon system, especially at this location. He stated that runoff, particularly in the spring, has many times been strong enough to move culverts and flood the fields for days.

Mr. Ken Kitchen, who lives and farms directly to the east of the proposed lagoon site, testified that approximately 18-20 hectares (45-50 acres) of the east half of Lot 34, Concession 8, King Township, drain westward directly onto the proposed lagoon site. Also, approximately 10 hectares (25 acres) of the east half of Lot 33, Concession 8, King Township, drain northwest onto the proposed lagoon site. He questioned the hydraulic engineer, Mr. Curtis, about conditions on the proposed lagoon site.

Mr. Kitchen said that in the southwest corner of the site the ground is very springy and the water boils up out of the ground. He asked whether the underground watercourse would

not suck the water out of the lagoon and spread it around the countryside. Mr. Curtis maintained that the springy areas could either be sealed with a clay lining or over-excavated to remove any non-clay material and then packed with clay. Mr. Curtis held this opinion even after Mr. Kitchen described how four cattle-watering wells were dug and within a week the barrels inserted in them were pushed out of the ground by quicksand and water.

On re-examination Mr. Curtis described other techniques available to deal with underground springs. One of the most successful is apparently to determine exactly the seam along which the water is travelling, intercept it before it enters the lagoon site, and divert it off with a type of drain which is basically crushed stone and gravel placed under the ground for water to percolate through. Then the seam on the lagoon site would be excavated and sealed. He noted that the soils consultants would be on-site to re-evaluate soil conditions when construction begins.

Borehole locations, which were transferred onto Exhibit #22, do not exactly correspond to the lagoon locations because they were done before the final lagoon locations were chosen. Mr. Wiggins noted that the boreholes were taken on high ground. Mr. Kitchen stated that when the engineers did their work on this site the water level was at a 20 year low. He also recalled that there was a railway line crossing the site, and although the ties were taken up in about 1944, there may still be a gravel roadbed underground.

Borehole 2, shown on Exhibit #22, is the closest to the area described by Mr. Kitchen as a springy, wet area. Mr. Wiggins identified the area between boreholes 3 and 4 as low and wet. This latter area might be dried up, according to Mr. Rupke, by removing the raised laneway and providing drainage away from it.

The evidence of both Mr. Wiggins and Mr. Kitchen was helpful to the Board and, we believe, to the applicant. On the basis of that evidence, the Board believes that further soil testing and underground water drainage analysis should be done on the site.

Odour from the lagoons is an issue for both the Kitchens and Mr. Wiggins. The prevailing winds in the area generally blow from the west, Mr. Kitchen said, so there are several homes, which are shown on Figure 1 of the Kitchens' submission, which are downwind of the proposed site. They note that other communities such as Listowel, have experienced odour problems, and that the Ministry's "Guidelines for Land Use Surrounding Small and Medium Sized Sewage Treatment Plants" state that lagoons are more likely to create objectionable odours than mechanical plants. Mr. Boretski of the MOE submitted that there might be objectionable odours for 2 to 3 weeks when ice cover melts.

Mr. Rupke thought there would be only 2 to 3 days of objectionable odour. Odours are caused by the lack of oxygen interacting with sewage, so the main causes are overloading

either by volume, strength, or character of the sewage; improper operation; or mechanical breakdown.

A similar system in the Holland Landing area apparently has not created odour problems, and a new housing development with some dwellings as close as 215 metres has been built with no adverse effects, at least to the knowledge of Mr. Todd, the Director of the Region's engineering branch.

Despite this evidence, the board encourages the Director to consider at the final design stage ways of mitigating potential odour problems, such as installation of an oxygen diffusion system which might be put into operation a few weeks before spring thaw.

Mr. Kitchen was also concerned about the need for a larger buffer zone than will be provided on-site because he does not want the use of his property, which is immediately to the east of the proposed lagoon site, restricted. The applicant's evidence was, however, that even with three lagoon cells, the buffer will meet the minimum 100 metre requirement. The sandfilter beds will occupy the 100 metre buffer zone on the north side of the lagoon, but no objection was made to that aspect of the design. The existing land use to the north is industrial.

Although it was not an issue at the hearing, safety fencing is often considered for lagoon sites. The Board suggests that the Director consider whether fencing, for security and safety purposes, is warranted in this instance.

Conclusions and Recommendations

The Board is satisfied that a communal sewage treatment system is needed for the hamlet of Schomberg. There was in fact no contention that a facility is not needed. The major objection from residents was that the system proposed was a lagoon system rather than a mechancial plant. The evidence presented by the applicant, that the lagoon system will produce a better and more consistent effluent quality, was persuasive. The sand filters would be required for either system and even if a mechanical plant was chosen, a lagoon type storage area would be required. The Board therefore recommends that the lagoon system proposed by the applicant, and modified to provide for 3 lagoons and 3 larger or 4 smaller sand filters, be approved subject to the following terms and conditions:

1. Detailed design plans and specifications, including more detailed information about soil conditions, groundwater flow and drainage on the proposed lagoon site, shall be submitted and approved by the Director of Environmental Approvals and Land Use Planning.

2. Floodplain mapping shall be completed prior to submission of final plans and specifications.

3. The applicant or its consultants shall investigate further the soil conditions and groundwater flow on the proposed lagoon site, and in so doing shall seek advice and information from Mr. Ken Kitchen and Mr. Stanley

Wiggins, if they are willing to provide such advice and information.

4. The applicant shall provide landscaping on its property which, from the beginning of operation of the lagoons, will obscure the view of those lagoons from Mr. Stanley Wiggins' home and backyard.

5. A monitoring program shall be instituted prior to construction of the system and shall consist of the following elements:

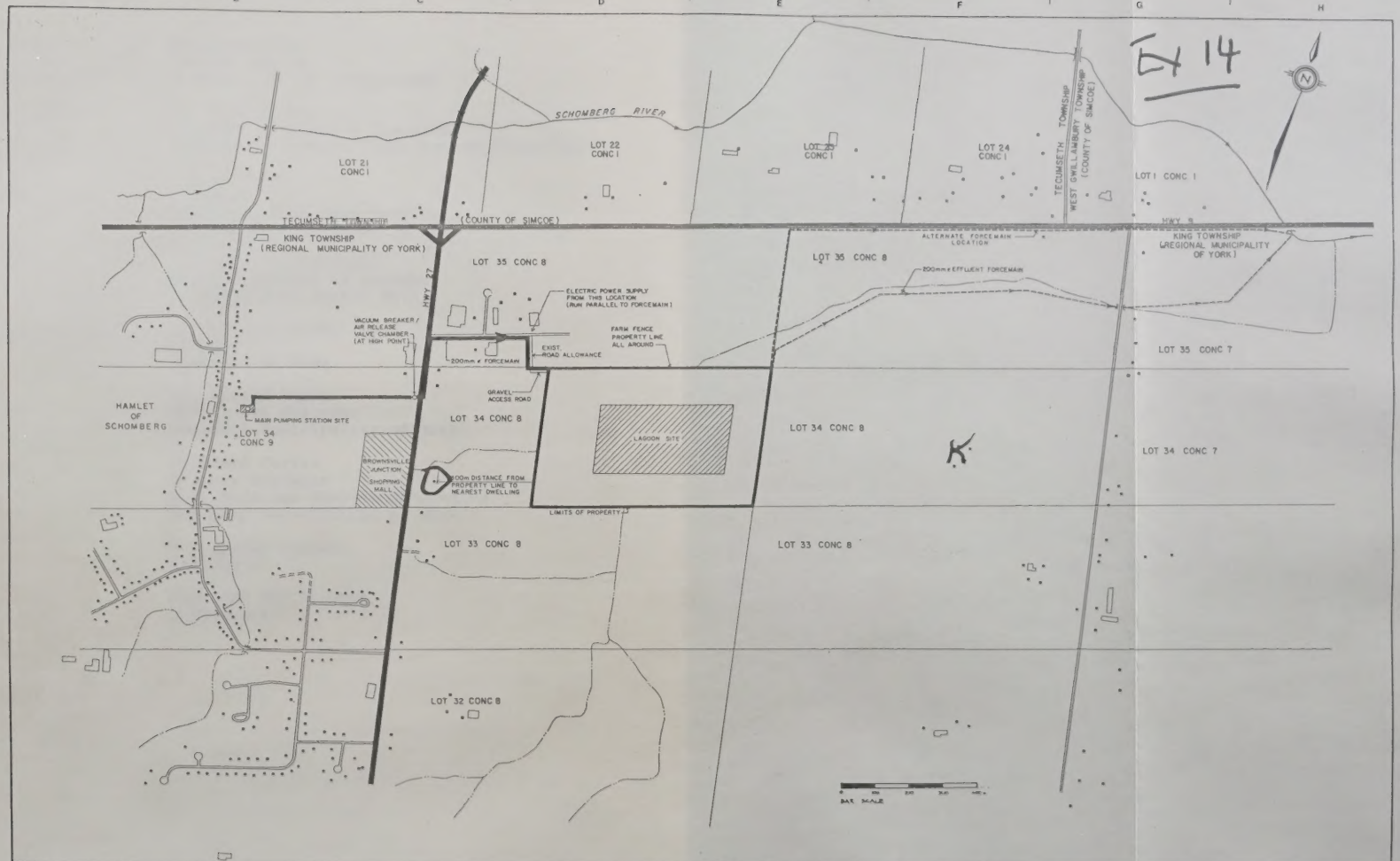
(a) Monitoring wells to be installed at the periphery of the property or between the lagoon site and the periphery of the property, and to be monitored routinely prior to, during and after construction and during operation, in order to identify any potential off-site impact.

(b) Private wells adjacent to the lagoon site shall be sampled prior to and during the construction and operation of the lagoons in order to determine background water quality and any changes which may occur thereafter.

Dated at **TORONTO** this **1ST** day of **OCTOBER, 1987.**

M. I. Jeffery
Chairman

Yvonne Lane
Board Secretary



NOTES

1. GEOGRAPHIC INFORMATION FROM 1:10000 SCALE ONTARIO BASIC MAPPING.

LEGEND:

▪ BUILDING

▯ LARGE BUILDING

No.	Description	By	Date	Appd	Date
A	ISSUED WITH PRELIMINARY ENGINEERING REPORT	CC	OCT./86		OCT./86
B	FORCEMAIN SIZES REVISED	CC	NOV./86		NOV./86
C	ADDITIONAL DETAIL ADDED AND ISSUED TO MOE	CC	JUNE/87		JUNE/87
D	BUILDINGS ADDED FOR PUBLIC MEETING	CC	NOV./87		NOV./87

THE REGIONAL MUNICIPALITY OF YORK

Rupke & Associates Ltd.
POLLUTION CONTROL & CONTRACT OPERATION
NEWMARKET

R.V. Anderson Associates Limited
consulting engineers and planners
TORONTO — MISSISSAUGA

Scale	Designed	Project No.	SCHOMBERG SEWERAGE SYSTEM EXTERNAL SERVICES	Dwg. No.
AS SHOWN	Checked	2380		01
	Drawn VRO	Date OCT./1986		

List of Witnesses **OW-87-03**

Garry Boretski
Central Region
Ministry of the Environment

Mr. Reinie Vos
Manager of Policy & Planning
Lake Simcoe Region Conservation Authority

George Todd
Engineer
Director, Municipal Branch
Regional Municipality of York

John Owen Slingerland
Medical Officer of Health
York Regional Health Unit

Mr. Murray Snider
Planner
Township of King

Mr. Gerald Rupke
Consulting Engineer
Regional Municipality of York

Clifford Curtis
Project Engineer
R.V. Anderson Associates Limited
Regional Municipality of York

Mr. Sidney Wiggins
Landowner

Jane and Ken Kitchen
Landowners

List of Exhibits **OW-87-03**

1. Director's notice dated June 12, 1987.
2. Memorandum constituting Hearing Panel dated July 15, 1987.
3. Affidavit of Service of Karen Dusome dated July 16, 1987.
4. Affidavit of Service of Katheryn Janet Baumhour dated August 6, 1987.
5. Brief by the Central Region of the Ministry of the Environment dated August 17, 1987.
6. Proposed plan of subdivision, Daraban Holdings Ltd.
7. Brief of the Lake Simcoe Region Conservation Authority dated August 12, 1987.
8. Topographic map on which drainage pattern is superimposed (scale 1:10,000).
9. Curriculum vitae of George Todd.
10. Certified copy of Regional By-Law #S-38-86-6 to authorize construction of the Schomberg sewage treatment works, dated January 16, 1986.
11. Certified copy of Regional By-Law #S-41-86-55 to authorize a financial contribution to the Township of King towards the cost of the Schomberg sewage project dated May 22, 1986.
12. Topographic map 1:50,000 showing northern part of the Region of York, Holland River Watershed.
13. Curriculum vitae of Mr. Murray Snider.
14. Sewage Works site plan.
15. Resolution of the Township of King dated November 19, 1984 requesting regional funding.
16. Resolution of the Township of King dated March 2, 1987 requesting sewage system design.
17. The Official Plan of the Township of King Planning Area.
18. Township of King By-Law 74-53, adopted on October 7, 1974.
19. Curriculum vitae of Mr. J.W. Gerald Rupke.
20. Preliminary Design Report of Schomberg Sewage System for the Regional Municipality of York dated January, 1987 (including addendum under separate cover).

21. Final report and recommendations of the Steering Committee (Lake Simcoe), 1985.

22. Lagoon Site Plan.

23. Curriculum vitae of Clifford Curtis.

24. Cross-sections of the sewage lagoon.

25. Submission of Mr. Sydney Wiggins.

26. Submission of Kenneth Kitchen.

CA2ONBA 87003
Ontario. Environmental Assessment Board.
OW-87-03
IN THE MATTER OF AN APPLICATION BY THE REGION
MUNICIPALITY OF YORK FOR SEWAGE TREATMENT WORK

RESOURCE CENTRE
INST. FOR ENVIRON'L. STUDIES
UNIVERSITY OF TORONTO